

Corrigé - Série de TD N01 THL

Exercice 1 :

	L1	L2	L3	L4	L5	L6	L7
ϵ	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$
a	$\notin$	$\in$	$\notin$	$\notin$	$\in$	$\notin$	$\notin$
abba	$\notin$	$\in$	$\in$	$\notin$	$\notin$	$\notin$	$\notin$
abbaacc	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$
aba	$\notin$	$\in$	$\notin$	$\notin$	$\notin$	$\notin$	$\notin$
aabb	$\in$	$\in$	$\in$	$\notin$	$\notin$	$\in$	$\in$
abb	$\notin$	$\in$	$\notin$	$\notin$	$\in$	$\notin$	$\notin$

Exercice 2 :

1. $L2 \cdot L3 = \{ab, aba, aab, aaba, b, ba\}$
2. $L2 \cdot L1 = \{a^i b^j, i \geq j \geq 1\} = L1$
3. $L1 \cdot L3 = \{a^i b^j a^k, i \geq 1, j \geq 2, k \in \{0,1\}\}$
4. $L5 \cap L1 = \{a^i b^i, i \geq 1\} = L6$
5. $L6 \cup L5 = L5$
6. $L1 \cdot (L2 \cap L4) = L1 \cdot \{\epsilon\} = L1$
7. $L1 \cdot (L2 \cap L3) = L1 \cdot \Phi = \Phi$
8. $(L1 \cdot L2)^R = \{a^k b^j a^i, i \geq j \geq 1, k \in \{0,1,2\}\}$
9. $(L1)^R \cdot (L2)^R = \{b^j a^i, i \geq j \geq 1\}$

Exercice 3 :

$$L2 \subset L1 \subset L3$$

$$L2 \subset L1 \subset L4$$